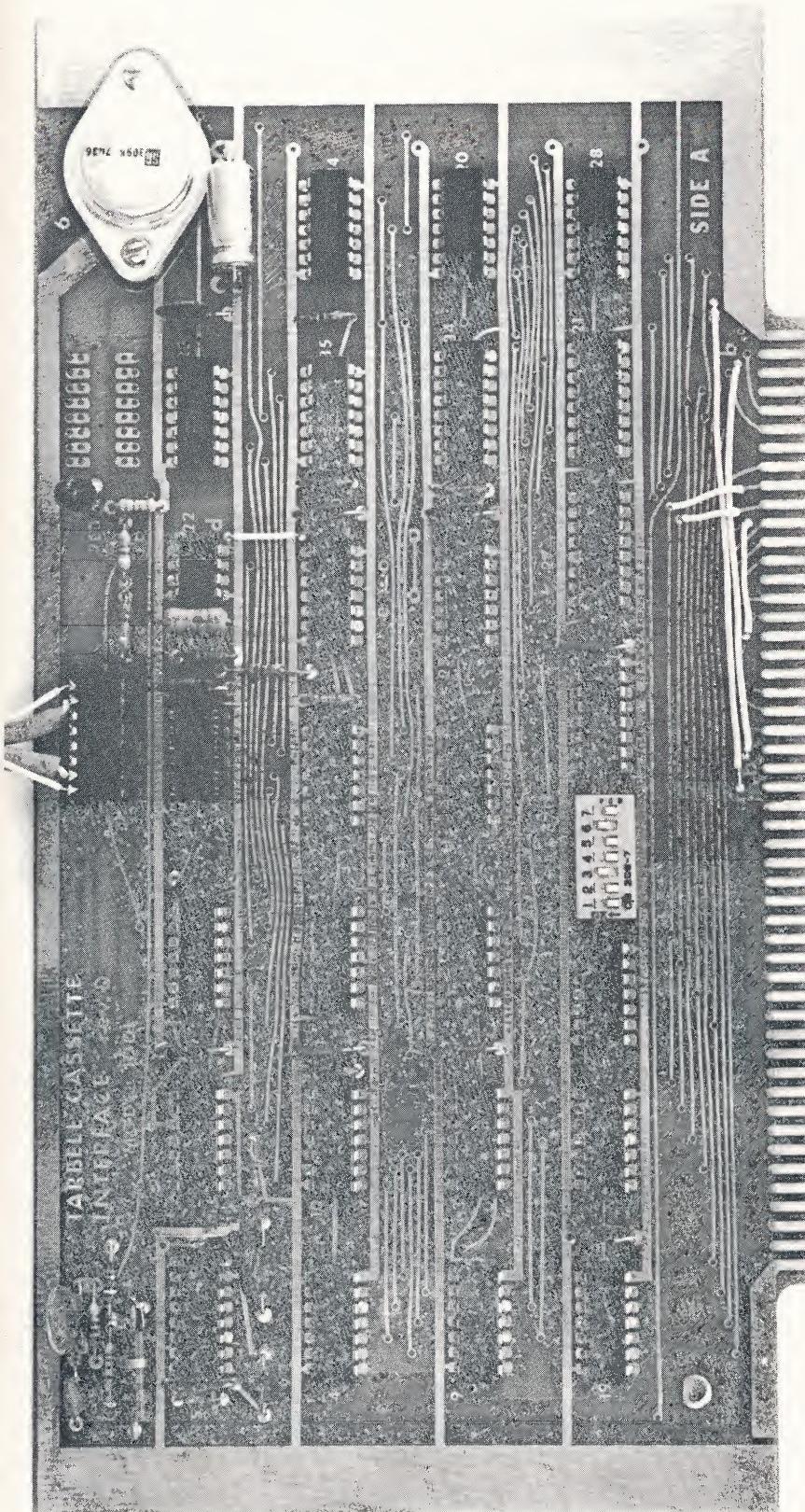


WCCF '77

# TAPE TROUBLE TURNING YOU OFF?

## Turn On To TARBELL



### **It's faster**

187 - 540  
Bytes per Second

### **It's more reliable**

Self-Clocking  
No-Fault 90-Day Warranty

### **It's more versatile**

4 Extra Status Lines  
4 Extra Control Lines  
Code Selectable

### **It's easy**

No need to modify cassette recorder  
Complete instructions included  
Plugs right into your ALTAIR/IMSAI

*Tarbell*  
Electronics

20620 South Leapwood Avenue, Suite P  
Carson, California 90746  
(213) 538-4251

## THE TARBELL CASSETTE INTERFACE

Plugs directly into ALTAIR\* 8800 or IMSAI 8080 Computer. Serial-Parallel and Parallel-Serial Conversion performed on board.

It's fast — Up to 540 bytes per second (2200 bits per inch) with high-quality cassette recorder. 187 bytes per second (800 bits per inch) suggested standard with medium quality (\$39.95) recorder. 27 bytes per second (with modification) for Kansas City format. 1000 bytes per second @ 10 inches per second with PHI-DECK.

Encoding method — Phase encoded self-clocking method requires only one channel, and withstands large amounts of wow and flutter. Has been used in the computer industry for many years. Can also be used to generate and detect Kansas City format tapes with small modification.

Will work with most audio cassette recorders. Has been used with reel-reel tape recorders. Can easily be adapted to automatically (software) controlled digital cassette units. The J. C. Penny #6536 is presently being recommended (\$39.95). Suggested tape is Scotch Low-Noise, High-Density audio tape.

The device code (address) to which the interface responds is selectable in increments of 4 by an on-board dip-switch.

Four extra status lines are available to read external conditions.

Four extra control lines are available, which may be used to drive relays for extra cassette units, start-stop control, or controlled cassette drives, such as the PHI-DECK.

Two spare IC slots are provided on the board to do your own thing.

Software provided includes input/output driver routines, bootstrap, read-only memory program, and a BASIC program for saving and loading data. A Processor-Technology Software Package #1, which is an editor and assembler combined, and which has been extensively modified for saving and loading files to and from cassette, is available separately.

The 37-page owner's manual includes assembly instructions and drawings, parts and pin-function lists, soldering, cleaning, and installation notes, operating instructions, initial adjustment procedures, notes about using the PHI-DECK, start-stop control, interrupts, and writing programs for the cassette interface, the software mentioned above, and information about all the integrated circuits on the board.

The parts provided include all resistors, capacitors, integrated circuits, cassette cables, ribbon cables, dip connector, low-noise cassette with test stream, and a high-quality double-sided board with plated-through holes and gold-plated edge-connector fingers.

The first deliveries were made in September, 1975. Delivery time is from one to three weeks after receiving order. If you are not completely satisfied with the operation of the cassette interface, for whatever reason, the unit may be returned for refund or free repair within 90 days after you purchased it.

Kit price: \$120. Assembled & Checked out: \$175. Manual (incl): \$4. California residents please add 6% sales tax.

\*ALTAIR is a trademark/tradename of MITS, Inc.

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